

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HELMUT AUWETER, NINA MUSAEUS JENSEN, ERIK
LUDDECKE, and FRANK RUNGE

Appeal 2006-3377
Application 09/929,075
Technology Center 1600

Decided: May 11, 2007

Before TONI R. SCHEINER, DEMETRA M. MILLS, and NANCY J.
LINCK, *Administrative Patent Judges*.
LINCK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a 35 U.S.C. § 134 appeal in the above-referenced case.¹ The title of the application is “Solid preparations having a multicore structure.” The Examiner has rejected claims 1-10 and 19 under 35 U.S.C. § 103(a).

We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

¹ The application was filed August 15, 2001 and published April 18, 2002. The assignee is BASF Aktiengesellschaft.

STATEMENT OF THE CASE

The field of the invention is “solid preparations . . . suitable for the food sector and animal feed sector or for pharmaceutical and cosmetic applications.” (Specification (hereafter “Spec.”) 1, ll. 4-6.) The claimed subject matter is reflected in claim 1, reproduced below:²

1. A solid preparation of at least two active compounds suitable for the food sector and animal feed sector or for pharmaceutical and cosmetic applications in the form of a multicore structure in which at least two cores of a multicore structure have a different chemical composition.

According to the specification, the claimed preparations “firstly prevent or decrease unwanted interactions between the active compounds within the multicore structure by encapsulation of the individual active compounds, and secondly they permit more flexible organization of the production of user-friendly formulations of active-compound-containing mixtures.” (Spec. at 3.)

The Examiner relied on the following prior art:

Horn	US 4,522,743	Jun.11, 1985
Khachik	US 5,382,714	Jan.17, 1995
Ausich	US 5,648,564	Jul. 15, 1997
Akamatsu	US 5,780,056	Jul. 14, 1998

² Appellants do not separately argue the claims. Thus we consider the contentions of the Examiner and Appellants with respect to representative claim 1.

ISSUE ON APPEAL

The Examiner found “Akamatsu et al. teach microcapsules of multi-core structure comprising natural carotenoid for additive agents for food and pharmaceuticals. The core particles contain the natural carotenoid, and have a particle size of 0.01 to 5 μm . The microcapsules have mean particles size of 50 to 3,000 μm . See, particularly, col. 1, lines 6-16, lines 35-42, col. 2, lines 43-58, col. 4, line 45 to col. 5, line 23.” (Office Action (hereafter “OA”) 3 (mailed 4/09/2003) (incorporated in Final Office Action 2 (mailed October 28, 2003).) “Akamatsu et al. specifically state: ‘The natural carotenoid which can be used herein includes palm oil carotenoid, donariera algae carotenoid, carrot carotenoid, alfalfa carotenoid, corn carotenoid, and tomato carotenoid alone *or in admixture of two or more. It is preferred that at least two carotenoids* selected from a-carotenoid, b-carotenoid, r-carotenoid, and lycopene be contained.’ Col. 3, lines 22-32” (Answer 6-7 (emphasis added)). “Possessing this teaching, and in view the fact that individual carotenoids are available as fine particle[s], it would have been obvious to incorporate different carotenoid particles into a multiple core structure.” (*Id.*)

Appellants contend

each of the multiple core structures shown in the cited art contains the same active ingredient(s). . . . Conversely, the present invention . . . claims multiple core structures with more than one active ingredient with at least two cores of a multicore structure having a different chemical composition. . . . [O]ne would not have been motivated to pick and choose elements from the examiner’s cited reference[s] to arrive at the present claims.

Substitute Brief on Appeal (“Br.”) 4 (received Nov. 1, 2005).

“One of the basic requirements of a *prima facie* case of obviousness is there must be a reasonable expectation of success. . . . [T]here would not be [a] reasonable expectation of success if only based on the knowledge of one of ordinary skill in the art” because of known “unwanted interactions among the carotenoids when in close contact.” (Br. 4-5.)

In view of these conflicting positions, we frame the issue to be decided as follows:

In view of the cited prior art, particularly Akamatsu, would the skilled artisan have been motivated to make a multicore structure having two cores of different chemical compositions with a reasonable expectation of success?

FINDINGS OF FACT

Claim Interpretation

Claim 1 requires “a multicore structure in which at least two cores . . . have a different chemical composition.”

The language of claim 1 does not limit the “chemical composition” to any particular compositions.

Claim 1 is not limited to chemical compositions having unwanted interactions, such as the carotenoids.

A “multicore structure is a particle species (secondary particle) having a mean particle size of from 5 to 3000 μm . . . , in which a further particle species (primary particle), called cores, is embedded in a matrix.” (Spec. at 2.)

The Cited Prior Art

“Akamatsu et al. teach microcapsules of multi-core structure comprising natural carotenoid for additive agents for food and

pharmaceuticals. The core particles contain the natural carotenoid, and have a particle size of 0.01 to 5 μm . The microcapsules have mean particle[] size[s] of 50 to 3,000 μm . See, particularly, col. 1, lines 6-16, lines 35-42, col. 2, lines 43-58, col. 4, line 45 to col. 5, line 23.” (OA 3.)

Akamatsu’s coating material is “based on gelatin” (col. 3, ll. 11-13), just as Appellants’ coating material can be (Spec. at 6, ll. 1-2); and Akamatsu’s core material “contains natural carotenoid, [and] an edible oil” (col. 3, ll. 18-21), just as Appellants’ can (Spec. at 3, l. 45 to 4, l. 2; Spec. at 6, ll. 36-38).

“Akamatsu et al. specifically state: ‘The natural carotenoid which can be used herein includes palm oil carotenoid, donariera algae carotenoid, carrot carotenoid, alfalfa carotenoid, corn carotenoid, and tomato carotenoid *alone or in admixture of two or more. It is preferred that at least two carotenoids* selected from a-carotenoid, b-carotenoid, r-carotenoid, and lycopene be contained.’ Col. 3, lines 22-32” (Answer 6-7 (emphasis added)).

Akamatsu teaches their “microcapsule has a strength enough to protect natural carotenoid from oxidation and deterioration . . . ” (Abstract).

Khachick, Ausick, and Horn are relied upon to address additional limitations in claims 2-10 and 19 and are not required to determine the patentability of claim 1.

Other Findings

Akamatsu’s suggestion to combine “at least two carotenoids” in their multicore structures would have motivated the skilled artisan to make the multicore structure of claim 1 “having at least two cores,” each with a “different chemical composition.”

The skilled artisan would have had a reasonable expectation of success, given Akamatsu's suggestion to make such a combination.

Appellants do not provide any rebuttal evidence showing their solid preparations are more stable than those of Akamatsu, or showing their process for making their claimed multicore structure varies from those disclosed in the prior art. (*See Answer 6.*)

PRINCIPLES OF LAW

During examination proceedings, "claims are given their broadest reasonable interpretation consistent with the specification. [This] proposition 'serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified,' . . . and it is not unfair to applicants, because 'before a patent is granted the claims are readily amended as part of the examination process'" *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (internal citations omitted).

"While the ultimate conclusion of obviousness is for the court to decide as a matter of law, several factual inquiries underlie this determination. These inquiries include the scope and content of the prior art, the level of ordinary skill in the field of the invention, [and] the differences between the claimed invention and the prior art." *SIBIA Neurosciences, Inc. v. Cadus Pharmaceutical Corp.*, 225 F.3d 1349, 1355, 55 USPQ2d 1927, 1930 (Fed. Cir. 2000) (internal citations omitted).

"In appropriate circumstances, a single prior art reference can render a claim obvious. However, there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion. This suggestion or

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motivation may be derived from the prior art reference itself.” *Id.* at 1356, 55 USPQ2d at 1931 (internal citations omitted).

“Determining whether there is a suggestion or motivation to modify a prior art reference is one aspect of determining the scope and content of the prior art, a fact question subsidiary to the ultimate conclusion of obviousness.” *Id.* “‘The presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact.’ *In re Gartside*, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000) . . . , as is the presence or absence of a ‘reasonable expectation of success’ from making such a combination” *Alza Corp. v. Mylan Labs*, 464 F.3d 1286, 1289, 80 USPQ2d 1001, 1003 (Fed. Cir. 2006).

“All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art.” *In re Boe*, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). In making a § 103 determination, “the fact that a specific [embodiment] is taught . . . is not controlling, since all disclosures of the prior art . . . must be considered.” *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976), *quoted with approval in Merck & Co. v. Biocraft Labs*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989).

“Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper.” *In re McLaughlin*, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

DISCUSSION

Applying the law to the Examiner's findings and those elaborated above, we conclude the invention of claim 1 would have been obvious to one of ordinary skill in the art, based on the cited prior art, particularly Akamatsu. Akamatsu's teaching that it is "preferred" to combine "at least two carotenoids" in their multicore structures would have motivated the skilled artisan to make the multicore structure of claim 1 "having at least two cores," each with a "different chemical composition." Given this teaching, the skilled artisan would have had a reasonable expectation of success.

Further, since claim 1 is not limited to compositions having unwanted interactions, for example, carotenoids, Appellants' arguments based on such characteristics are unavailing.

Appellants appear to be arguing the skilled artisan would not expect Akamatsu's teachings to provide stable multicore structures but don't explain how their structures differ. (Br. 4-5.) They do not provide any rebuttal evidence showing their solid preparations are more stable than those of Akamatsu. Further, they do not provide any evidence showing their process for making their claimed multicore structure varies from those disclosed in the prior art, thereby overcoming any difficulties with the prior art processes. Thus, we affirm the Examiner's prima facie case of unpatentability under 35 U.S.C. § 103(a).

CONCLUSION

In summary, Appellants' invention of claim 1 would have been obvious to one of ordinary skill in the art at the time the invention was made. Thus, we affirm the Examiner's rejection of claim 1 under 35 U.S.C.

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§ 103(a). We also affirm the § 103(a) rejection of claims 2-10 and 19, as these claims were not argued separately. 37 C.F.R. § 41.37(c)(1)(vii)(2006).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

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